

AltruSight

Capstone I Final Proposal

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Problem

- A lot of people donate to multiple charities, but how do they know their money is being used appropriately?
- In 2017 donations to charitable causes were estimated to be \$410.02 billion
- U.S. has no centralized system where donors can check the legitimacy of a non-profit or check the status of their donations with transparency.
- Approximately 66% of people do not look into the charities to which they want to donate
- Example: Money laundering scandal involving the Fédération Internationale de Football Association (FIFA) where an Israeli bank and a Swiss bank reached a resolution with U.S. prosecutors to pay \$30 million for conspiring to launder more than \$20 million

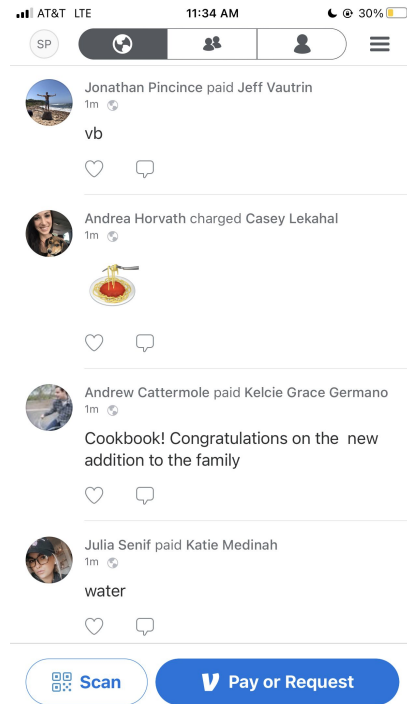
Objective

- Proof-of-concept website as a centralized system for non-profits so users can track donations
- Create a system that makes it easier to hold nonprofits accountable and allows users to see how donations are spent
- Sense of security for donors since information on the legitimacy of each nonprofit will be clearly provided
- Add social media-like functionality to appeal to more users

Related Works

CharityWatch - an organization that sets out to “maximize the effectiveness of every dollar contributed to charity.” CharityWatch gives charities a grade, and shows other metrics all which are factored into said grade.

Venmo (payment feed → donation feed) - we want to add a donation feed to our website, similar to the feed of payments seen in Venmo. Ideally, we wouldn't show payment amounts, at least on a user by user basis.



Key Concepts

Angular - a framework for building web applications with TypeScript, HTML, and CSS.

Node.js and Express - used in the backend to help build/package the web application and route users to the right page depending on the URL path.

Heroku and PostgreSQL - Heroku has integrated support for PostgreSQL so we will use Heroku with PostgreSQL databases to host our application and relevant information in relational databases

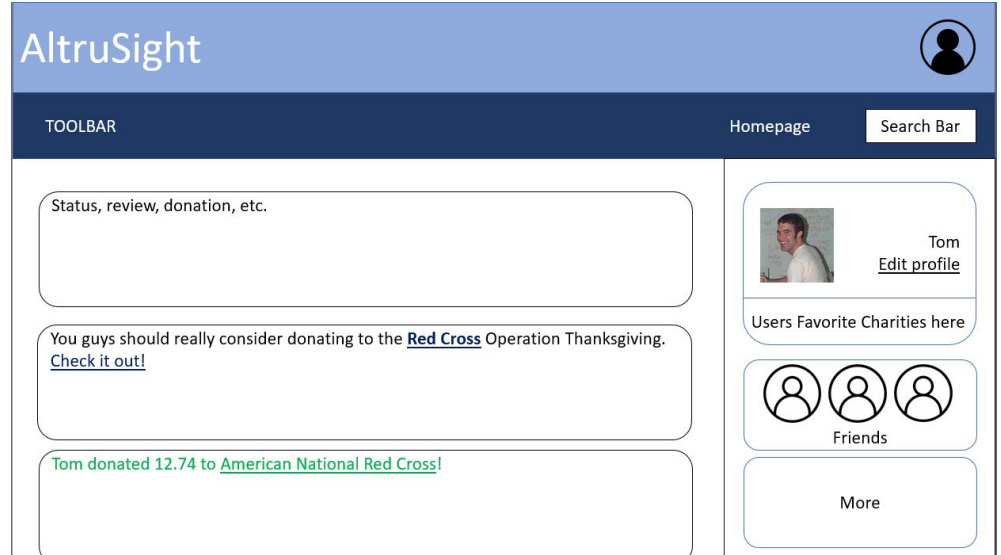
High Level Architecture

The only hardware required is a machine for each group member to work on

Heroku, NodeJS / Express, and Angular will make up our backend and framework

A user's page will change depending on if they are logged in or not

Below is a mockup of a logged-in user's homepage



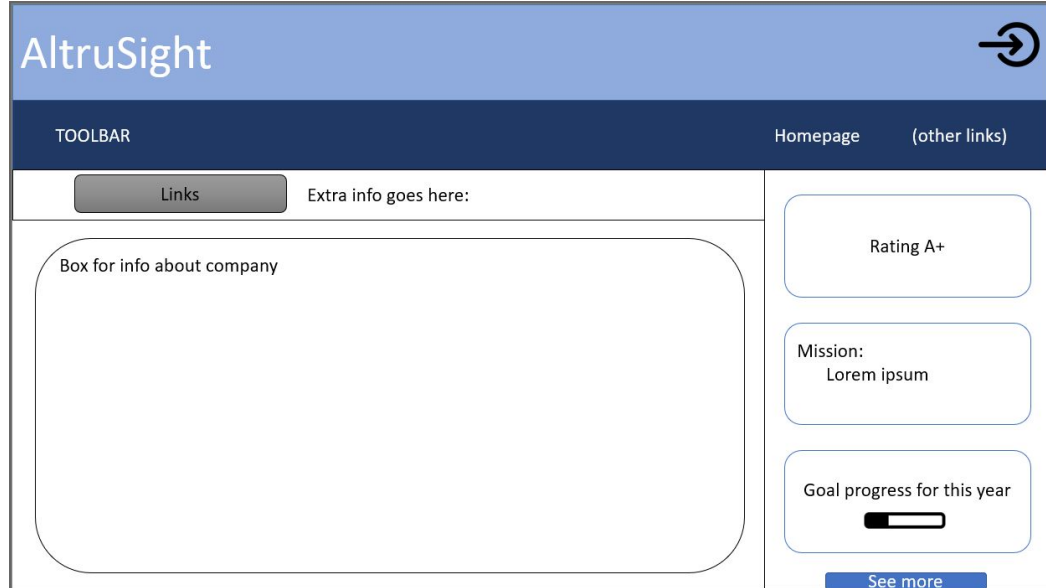
High Level Architecture

The layout could be thought of as Facebook x Yelp

If a user is not logged in, they would see a default home page with what is popular

Each charity we add will have their own page listing their rating, mission statement, or any other relevant information

Below is a mockup of what the structure of an individual charity's page might look like



Requirements and Use Cases

- Requirements
 - Users should have the ability to register, login and logout
 - Users should have the ability to search for and view individual nonprofits
 - Users should be able to view the donation activity of other users
 - Users should be able to make (mocked) payments through the web app
- Use Cases
 - Finding suitable nonprofits to donate to
 - Checking integrity of existing nonprofits
 - Central hub for tracking personal donations to nonprofits

Tasks

- Ramp up
 - Get familiarized with tech stack, and gain more insight into nonprofits and requirements for evaluating nonprofits
- Implementing main features
 - Backend API, database schema in PostgreSQL
 - Home page, nonprofit pages, user profile pages, toolbar
 - Nonprofit search
 - (Mock) payment flow
- Implementing additional features
 - Favorites
 - Alternate views (logged in vs. logged out, social / nonprofit centered home pages)

Risks

- **Security Risks**
 - Since private data will need to be stored, security measures will be taken in order to ensure user privacy such as data encryption.
 - By focusing on user management, sensitive data leaks will be mitigated.
- **Charity Integrity**
 - The team will ensure that only reputable charities without a history of charity fraud are allowed on the application, and that a fair and transparent evaluation is given for each nonprofit.
- **Comment monitoring**
 - Comments should be monitored on individual charity pages as well as the payment feed. Preventative measures such as a profanity filter and email authentication will be implemented.